Supplement to SCIENCE, July 7, 1922.

# SCIENCE

NEW SERIES. VOLUME LV.

JANUARY-JUNE, 1922

NEW YORK
THE SCIENCE PRESS
1922

Science
Wahr
10-21-1922
gen.

THOMAS J. GRIFFITHS & SONS
11 Liberty Street,
UTICA, N. Y.

# CONTENTS AND INDEX.

## NEW SERIES. VOL. LV—JANUARY TO JUNE, 1922

NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS


Agriculture, Research in, A. F. WOODS, 64; L. S. FRIERSON, 317; Soc. of England, 366; Doctorates in, W. H. CHANDLER, 619.
Agronomy Soc., Amer., P. E. BROWN, 270
Alcohol, Grain, L. E. GRIFFIN, 262; Butyl, G. W. MARTIN, 429.
ALEXANDER, J., Value of Tilth, 156.
Alkali and Cellulosic Materials, H. HIBBERT, 428.
ALLARD, A. A., Photoperiodism, 582.
ALLEE, W. C., Amer. Soc. Zoologists, 159.
ALLEN, E. W., Science in Agriculture, 6
ALLEN, W. E., Writing Popular Science, 454
Ameboid Bodies, L. O. KUNKEL, 73
American Association for the Advancement of Science: Significance of Calcium for Higher Green Plants, R. H. TRUE, 1: Method of Science in Agriculture, E. W. ALLEN, 6; Observation versus Experimentation, J. STEBBINS, 29; Toronto Meeting, B. E. LIVINGSTON, 34, 61, 68; Evolutionary Faith and Modern Doubts, W. BATESON, 55; Trend of Earth History, E. BLACKWELDER, 83; Report of Treasurer and Secretary, 103; Past and Future of Medical Sciences in U. S., J. ERLANGER, 135; International Auxiliary Language, S. W. STRATTON, 166; Mechanical Analogy in Theory of Equations, D. R. CURTISS, 189; Atomic Nuclei, J. C. MCLENNAN, 219; Organization of Knowledge, F. L. HOFFMAN, 247; Pacific Coast Division, 297; Section L, History of Science, F. E. BRASCH, 405; Grants for Research, J. STEBBINS, 409; Section A—Mathematics and Associated Societies, W. H. ROEVER, 519; Section B—Physics, S. R. WILLIAMS, 520; Section K—Social and Economic Sciences, E. L. HOFFMAN, 521; Section N—Medical Sciences, A. J. GOLDFARB, 521; Tucson Meeting, Southwestern Division, 542; Section F—Zoological Sciences, H. W. RAND, 572; Section G—Botanical Sciences, R. W. WYLIE, 573; Section I—Psychology, F. N. FREEMAN, 574; Section O—Agriculture, P. E. BROWN, 575; Southwestern Division, 45; Resolutions, 62; Associateship in, 93; Membership, 121; Grants for Research, J. STEBBINS, 256; Salt Lake City Meeting, B. E. LIVINGSTON, 450, 633; Section N, 472; Meeting of Executive Committee, B. E. LIVINGSTON, 680; Secretary's Report, 682; Section M—Medical Sciences, P. GILLESPIE, 683
ANDREWS, R. C., Amer. Mus. of Nat. History, 584
Angiosperms, E. C. JEFFREY, A. E. LONGLEY, C. W. T. PENLAND, 517
Animal Experimentation, E. WIGGLESWORTH, J. C. PHILLIPS, T. BARBOUR, 48
Apples, Stem End Rot, C. C. BARNUM, 707
Archeology, Mexican, 365
Argentine Rural Society, F. LAMSON-SCRIBNER, 119
Astronomical, Amer. Soc., J. STEBBINS, 298; Int. Union at Rome, 695
Atmospheric Pollution, A. MCADIE, 596
Atomic, Nuclei, J. C. MCLENNAN, 219; Structure, M. L. HUGGINS, 459

Bacteriologists, Amer. Soc., Culture Collection, 423
Bacteriology, Research Fellowship in, 423
Baird, Spencer F., Memorial, H. M. SMITH, 634
BARBOUR, T., Animal Experimentation, 48
BARKER, L. F., Endocrine Glands, 685
Barley, K. S. HOE, 378
BARNUM, C. C., Stem End Rot of Apples, 707
BARUS, C., Physics, 19; Acoustic Topography, 321
BASCOM, K. F., Free-martin, 624
Baskerville, Charles, W. A. HAMOR, 693
BATESON, W., Evolution, 55, 373
Bean, Bacterial Wilt of, F. HEDGES, 433
BECKING, L. B., University of Graz, 595
BEEBE, R., Gels, 75
BELLING, JOHN, Haploid Mutant in Jimson Weed, 646
BENEDICT, H. M., Vein-Islets of Leaves, 399
Benzene, M. L. HUGGINS, 679
BINGHAM, E. C., Metric Standardization, 232, 664
Biological, Stains, 43; H. J. CONN, 284; Societies, Federation of, A. F. SHULL, 245
Biology, Amer. Soc. for Exp., C. W. GREENE, 335, 379
Biotic Areas and Ecologic Habitats, L. R. DICE,
Birds, Banding of, C. L. WHITTLE, 233; Count of, 531; Decerebration in, F. W. WEYMOUTH, 538; Sound Location in, J. MAILLAIRD, 208
BLACKWELDER, E., Earth History, 83, 114
BLAKE, S. F., Weeds, 455
BLAKESLEE, A. F., Globe Mutant of Datura, 597; Haploid Mutant, 646
Bombay School of Tropical Medicine, 669
BONAZZI, A., Pasteur Centenary, 50
BORODIN, D. N., Russian Bureau of Applied Botany, 129
BOWIE, WILLIAM, Geodetic Operations in U. S., 645
Branner, John Casper, D. S. JORDAN, 340, 530
BRASCH, F. E., Sec. L, History of Science, 405
BRIDGE, N., Norman Bridge Laboratory, 327
British, Universities, Relief Work, 44; Association, 68; Research on Cement, 148; Columbia Expedition, 173
BROOKS, C. F., Amer. Meteorological Soc., 636
BROWN, P. E., Amer. Soc. Agronomy, 270; Sec. O—Agri., 575
BUCHHOLZ, J. T., Globe Mutant of Datura, 597
Bugs and Antennæ, E. P. FELT, 528
BURGESS, P. S., Hydrogen-Ion Concentration of Soil, 647
BUSCH, H. P., Metric System, 400
Business and Engineering Training, 234
Butter, Digestibility of, A. D. HOLMES, 659


409383

CAIRNS, W. D., Math. Assoc. of America, 599
CAJORI, F., Heinrich Suter, 447
Calcium for Higher Green Plants, R. H. TRUE, 1
Calcutta School of Tropical Medicine, 447
CALMAN, W. T., Ray Society, 156
CAMPBELL, WM., Henry Marion Howe, 631
Carbon Monoxide Poisoning, 66
Cartailhac, Emile, N. C. NELSON, 68
CARR-SAUNDERS, A. M., Inheritance in Swine, 19
CASTLE, W. E., Vienna White Rabbit, 269, 429; Y-chromosome Type, 703
Catastrophism, New, A. M. MILLER, 701
Cat-tail as Feed, L. E. FREUDENTHAL, 456
CATTELL, MCK., Peripheral Circulation, 434
Cell Theory, J. H. GEROULD, 421
Ceramic Society, American, 588
CHAMPLAIN, A. B., Long-lived Woodborer, 49
CHANDLER, W. H., Doctorates in Agriculture, 619
CHASE, M. A., Iridescent Clouds, 263
Chemical, Soc., Amer., C. L. PARSONS, 23, 77, 132, 185, 212, 307, 343; Int. Conference at Utrecht, 369; Engineering Lectures, 235; Exposition, 532
Chemicals, "Key," 73
Chemistry, The New, 157
Ciliary Action, Effect of Acid on, J. M. D. OLMSTED and J. W. MACARTHUR, 625
Circulation, Peripheral, MCK. CATTELL, 434
CLARK, G. L., Geometry and Inorg. Chemistry, 401
CLARK, H. L., Mortensen on Development and Larval Forms of Echinoderms, 431
CLARKE, J. M., Presentation to Professor Emerson, 92
CLEMENS, W. A., Hydra in Lake Erie, 445
Clinical Medicine, S. R. MILLER, 577
Clouds, Iridescent, M. A. CHASE, 262
Coal, World Production of, 341
COCKERELL, T. D. A., Wheeler on Social Beetles; Farquharson on Bionomics, 350
COLE, L. J., Genetics Section Meeting, 326
COLE, W. H., Drosophila, 678
Colloid Chemistry at Univ. of Wisconsin, 393
Collyer, Robert Hanham, H. F. OSBORN, 72
Concilium Bibliographicum, V. KELLOGG, 11
CONN, H. J., American Biological Stains, 284
Constants, Annual Tables, 469
COSGRAVE, J. O'H., Popular Science, 594
Cowley, Abraham, R. J. H. DELOACH, 127
CRAMPTON, H. E., Influenza in Pacific Islands, 90
Crayfish Trap, E. C. O'ROKE, 677
Crop Protection Institute, 14
CROZIER, W. J., Publication of Scientific Papers, 388
CRUMB, S. E., Mosquito Attachment, 446
Cultivation and Soil Moisture, H. A. NOYES, 610
CURTISS, D. R., Equations, 189
Cytology of Vegetable Crystals, E. C. JEFFREY, 566

DANIELS, F. B., Solar Energy, 618
DAVIS, B. M., Species, Pure and Impure, 107
Davis, Charles Henry, 2d, 200
DAVIS, W. M., Deflection of Streams, 478
Daylight Illumination, C. L. MEISINGER, 20
DELOACH, R. J. H., Abraham Cowley, 127
DICE, L. R., Biotic Areas and Ecologic Habitats, 335
Diseases, Animal, 507
DORSEY, N. E., Writing Popular Science, 374, 593
Dougherty, Cardinal, on Vivisection, 150
Drosophila, and Ultraviolet, F. E. LUTZ and F. K. RICHTMYER, 519; Photic Stimulus and Rate of Locomotion, W. H. COLE, 678
DUFFENDACK, O. S., Hydrogen in Tungsten Furnace, 210
Duty on English Books, G. D. HARRIS, 240

Earth, History, E. BLACKWELDER, 83, 114; Rotation and River-Bank Movements, E. HAYES, 567
Ecological Investigations, C. HARTMAN, 292
Eddy, Henry Turner, J. J. F., 12
Egg Secretion, O. GLASER, 486
EISENHART, L. P., Einstein Equations, 570
Electrified Microsections, S. W. GEISER, 212
Electron, Mass of the, at Slow Velocity, L. T. JONES and H. O. HOLTE, 647
Elements, Disintegration of, 422
Emerson, Professor, Presentation to, J. M. CLARKE, 92
Emission Bands of Erbium Oxide, E. L. NICHOLS and H. L. HOWES, 53
Engineering, Council, Amer., 95; French Exchange Professors in, 257
Entomological Society, Louisiana, T. E. HOLLOWAY, 436
Equations, D. R. CURTISS, 189
ERLANGER, J., Med. Sciences in U. S., 135
Eskimos, Copper, HAROLD NOICE, 611
Evolution: Evolutionary Faith and Modern Doubts, W. BATESON, 55, 373; William Bateson on Darwinism, H. F. OSBORN, 194; William Jennings Bryan on, 242, 264, 292; in Kentucky, 149; A. N. MILLER, 178, 316; Teaching of, 318; E. M. KINDLE, 374; W. E. RITTER, 398; in Texas, S. A. R., 515; W. W. KEEN, 603, 669
EWING, H. E., Nearctic Proturans, 706
EYCLESHYMER, A. C., Medical Education, 437
EYER, J. R., Tipburn, 180

FARNHAM, M. E., Haploid Mutant, 646
FASTEN, N., Fish Parasitism, 583
FELT, E. P., Bugs and Antennæ, 528
FENTON, F. A., Tipburn, 53
Fertilization, Selective, D. F. JONES, 348
FESSENDEN, R. A., Star Diameters, 180
Field Museum Expeditions, 94
Fiji Islands, Expedition to, 471
FISHER, W. K., Clark's Monograph of Existing Crinoids, 376
Fisheries, Alaska, 470, 561; Cal. State Lab., 507; U. S. Commissioner of, 637
Fish Parasitism, N. FASTEN, 583
FLETCHER, W., Aims and Boundaries of Physiology, 551
Flora of Porto Rico, 470
Footprints in Kansas, H. T. MARTIN, 99
Fossil Vertebrates at Stuttgart, W. D. MATTHEW, 156
Foxhall Jaw, H. F. OSBORN, 128
France, Exchange Professor with, 534
Frazer, John, 534
FREEMAN, F. N., Section I—Physiology, 574
Free-martin and Interstitial Cells, F. R. LILLIE, K. F. BASCOM, 624
FRIERSON, L. S., Tilth in Agriculture, 317
Fruit Trees, H. B. TURKEY, 241, 423
Fuller's Scale, H. R. ROSEN, 76

GARNER, W. W. Photoperiodism, 582
GARRISON, F. H., Sudhoff's Paracelsus, 155

GEISER, S. W., Electrified Microsections, 212
Gels, Forms of Gas and Liquid Cavities on, A. W. C MENZIES and R. BEEBE, 75
Genetics, C. B. HUTCHISON, 416
Geodetic and Geophys. Union, Rome Meeting, 614
Geographical Soc., Amer., 449; Royal Soc., 671
Geography, H. P. LITTLE, 362
Geologic Diffusion, G. O. SMITH, 596
Geologists, Assoc. of, in Pekin, 392
Geology, W. Vermont, C. E. GORDON, 208
Geometry and Inorganic Chemistry, G. L. CLARK, 401
Geophysical Union, Amer., 311
GEROULD, J. H., Cell Theory, 421
GILLESPIE, P., Sec. M at Toronto Meeting, 683
Glands, Endocrine, L. F. BARKER, 685
GLASER, O., Egg Secretion and Ethyl Butyrate, 486
Glass Flowers, 286
Globe Mutant, J. T. BUCHHOLZ, A. F. BLAKESLEE, 597
GOLDFARB, A. J., Sec. N—Med. Sciences, 521
GOODSPEED, A. W., Amer. Philosophical Soc., 649
Gorgas Memorial Institute, 149, 171
GORDON, C. E., Geology of Western Vermont, 208; Origin of Soil Colloids, 676
Graphs, W. H. ROEVER and E. R. HEDRICK, 401
Gravitational Absorption, P. R. HEYL, 349
Graz, University of, L. B. BECKING, 595
GREENE, C. W., Amer. Soc. for Exp. Biology, 379
GRIFFIN, L. E., Grain Alcohol, 262
GUDGER, E. W., Giant Ray, 338
GUYER, M. F., Nat. Research Council Fellowships, 636

HAAG, J. R., Hydrogen Electrode, 460
HALE, G. E., Constitution of Matter and Nature of Radiation, 332
Halifax, University of, 587
HALSEY, F. A., Metric System, 400
HAMOR, W. A., Charles Baskerville, 693
HANNA, G. D., Cal. Acad. of Sci., 305; Fur Seals, 505
HARDY, ARTHUR C., Kaieteur Falls, 643
HARRIS, G. D., Duty on English Books, 240
HARTMAN, C., Ecological Investigations, 292
HAYES, E., River-Bank Movements, 567
HAYFORD, J. F., Geodetic Operations in U. S., 645
Health, Public, Washington Conference on, 287
Heckscher Research Foundation, 41
HEDGES, F., Bacterial Wilt of Bean, 433
HEDRICK, E. R., Graphic Analytic Method, 401
HERING, C., Paracelsus Library, 514
HERRICK, G. W., Fernald's Applied Entomology, 182
Hesperopithecus, H. F. OSBORN, 463
HEYL, P. R., Gravitational Absorption, 349
HIBBERT, H., Alkali and Cellulosic Materials, 428
HILDEBRAND, J. H., Training Scientists, 355
History of Science, P. B. MCDONALD, 73, 122
HOE, K. S., Barley, 378
HOFFMAN, F. L., Organization of Knowledge, 247, 279; Sec. K—Social and Economic Sciences, 521
HOLLOWAY, T. E., Louisiana Entomol Soc., 436
HOLMES, A. D., Digestibility of Butter, 659
HOLTE, H. O., Mass of Electron at Slow Velocity, 647
HOOKER, H. D., Jr., Horticulture, 384
HOWARD, L. O., Carpenter on Insect Transformation, 50
Howe, Henry Marion, WM. CAMPBELL, 631
HOWES, H. L., Emission Bands of Erbium Oxide, 53
HRDLIČKA, A., Scientific Work in Russia, 618
HUGGINS, M. L., Atomic Structure, 459; Benzene, 679
Human Yolk Sac, F. T. LEWIS, 478
HUNTER, W. D., J. D. Mitchell, 469
HUTCHISON, C. B., Genetics, 416
HYDE, R. R., Immune Hemolytic Sera, 541
Hydra in Lake Erie, W. A. CLEMENS, 445
Hydrogen, Electrode, J. R. HAAG, 460; in Tungsten Furnace, O. F. DUFFENDACK, 210
Hygiene, Institute of, in London, 310

Ice and Humphry Davy, A. T. JONES, 514
Individualism in Medical Education, A. C. EYCLESHYMER, 437
Influenza in Pacific Islands, H. E. CRAMPTON, 90
Inheritance in Swine, A. M. CARR-SAUNDERS, 19
International Congress of History of Medicine, 635
Iodides, J. F. MCCLENDON, 358

JEFFREY, E. C., Angiosperms, 517; Cytology of Vegetable Crystals, 566
JENKINS, A. E., New Sclerotina on Mulberry, 353
JENNINGS, O. E., Streams of Long Island, 291
Johns Hopkins University, 257
JONES, A. T., Ice and Humphry Davy, 514
JONES, D. F., Selective Fertilization, 348
JONES, L. T., Sealing Tungsten into Pyrex, 352; Mass of Electron at Slow Velocity, 647
JORDAN, D. S., John Casper Branner, 340

KAEMPFFERT, W., Writing Popular Science, 621
KAHN, M., Vocabulary of Metabolism, 704
Kaieteur Falls, A. C. HARDY, 643
KEEN, W. W., Evolution, 603
KELLOGG, V., Concilium Bibliographicum, 11; University Professors in Poland, 430, 704; Am. Com. to Aid Russian Scientists, 667
KELLY, J. P., Coloration in Phlox, 245
Keys in Systematic Work, E. B. WILLIAMSON, 703
Kilobar, Kilocal, Kilograd, A. MCADIE, 207
KINDLE, E. M., Evolution, 374
KNIPP, C. T., Mercury Vapor Pumps, 183
Knowledge, Organization of, F. L. HOFFMAN, 279
KRAATZ, W. C., Museum Pests, 644
KUNKEL, L. O., Ameboid Bodies, 73
KUNZ, G. F., Lacroix on Déodat Dolomieu, 209

Laboratory Determinations, H. G. TURNER, 53
*Lactrodectus Mactans*, J. R. WATSON, 539
LAMSON-SCRIBNER, F., Arg. Rural Soc., 119
Language, International, S. W. STRATTON, 166, 457
LARSELL, O., Biological Researches of Gustaf Retzius, 515
LARSEN, J. A., Soil Shifting and Deposits, 457
League of Nations, Health Organization of, 540
Leaves, Vein-Islets of, H. M. BENEDICT, 399
LEWIS, F. T., Human Yolk Sac, 478; Spiral Trend of Intestinal Muscle Fibers, 704
Library, Paracelsus, C. HERING, 514
Liesegang Ring Formation, H. A. MCGUIGAN, 99
Light, Lectures on at Univ. of Wisconsin, 312
LILLIE, F. R., and K. F. BASCOM, Free-martin and Interstitial Cells, 624
LINDSEY, J. B., Sodium Hydrate and Grain Hulls, 131
LITHIUM, R. W. G. WYCKOFF, 130

LITTLE, H. P., Geography, 362
LIVINGSTON, B. E., Water Cultures, 483; Salt Lake City Meeting, 450, 633; Meeting of Exec. Com. of A. A. A. S., 680
LOEB, L., Stereoptropism, 22
LONGLEY, A. E., Angiosperms, 517
LORENTZ, H. A., Research in N. Bridge Laboratory, 334
Lowell, Percival, J. R., 50
Luminescence, E. L. NICHOLS, 157

MCADIE, A., Kilobar, Kilocal, Kilograd, 207; Atmospheric Pollution, 596
MACARTHUR, J. W., Acid on Ciliary Action, 625
MCCLENDON, J. F., Are Iodides Food? 358
MCCLUNG, C. E., Sharp's Introduction to Cytology, 482
MCDONALD, P. B., History of Science, 73; Writing of Popular Science, 621
MCGUIGAN, H. A., Liesegang Ring Formation, 99
MCLENNAN, J. C., Atomic Nuclei, 291
MAHIN, E. G., Science of Athletics, 523
MAILLAIRD, J., Sound Location in Birds, 208
Mammalogists, Society of., 626
MANN, A., Water-Immersion Objectives, 539
MARTIN, G. W., Butyl Alcohol, 429
MARTIN, H. T., Footprints in Kansas, 99
Mathematical, Amer., Soc., R. G. D. RICHARDSON, 354, 600, 472; Association of America, W. D. CAIRNS, 599; Projects, H. E. SLAUGHT, 146; Publications, 508
Mathematics, Reorganization of, 172
MATTHEW, W. D., Fossil Vertebrates at Stuttgart, 156
MAVOR, J. W., Production of Non-Disjunction by X-Rays, 295
Medical Association, American, 613
Medicine, Third Int. Congress of History of, 590
MEISINGER, C. L., Sky Brightness, 20; Temperatures in United States, 292; Streamflow, 622
Mendel Centennial, G. H. SHULL, 392
MENZIES, A. W. C., Gels, Forms of Gas and Liquid Cavities in, 75
Mercury Vapor Pumps, C. T. KNIPP, 183
MERRILL, G. P., Meteorites, 675
Metabolism, Vocabulary of, M. KAHN, 704
METCALF, M. M., Penard on Flagellates, 74
Meteorites, G. P. MERRILL, 675
Meteorological Soc., Amer., C. F. BROOKS, 636
Meteorology and Climatology, C. L. MEISINGER, 20, 292, 622
Metric Standardization, E. C. BINGHAM, 232, 664; H. RICHARDS, 515; F. A. HALSEY and H. P. BUSCH, 400
Microscopic Sections, G. H. NEEDHAM, 72
MILLER, A. M., Kentucky and Evolution, 178, 316; New Catastrophism, 701
MILLER, S. R., Clinical Medicine, 577
MILLIKAN, R. A., Acceptance of Norman Bridge Laboratory, 330
Mitchell, J. D., W. D. HUNTER, 469
MITCHELL, S. A., Pickering Memorial, 467
Montelius, Oscar, N. C. NELSON, 68
Mosquito Attractant, S. E. CRUMB, 446
Mount Everest Expedition, 342
Mulberry, New Sclerotina on, E. A. SIEGLER and A. E. JENKINS, 350
Muscle Fibers, Spiral Trend of Intestinal, F. T. LEWIS, 704
Museum, of Natural History, Amer., 311; Gifts to, 695; R. C. ANDREWS, 584; Pests, W. C. KRAATZ, 644
Mutant, Haploid in Jimson Weed, A. F. BLAKESLEE, J. BELLING, M. E. FARNHAM and A. D. BERGNER, 646
Mycology, Review of, 561

National, Academy of Sciences, Bache Fund, 173; E. E. SLOSSON, 465, 486; Grants for Research, 563; Research Council, Fellowships of, 561; M. F. GUYER, 636; Chairmen, 637
Naturalists, Amer. Soc., A. F. SHULL, 105; Assoc. in Pekin, 392
*Nectarina* in Texas, F. C. PELLETT, 644
NEEDHAM, G. H., Protection of Microscopic Sections, 72
Neuromotor Apparatus of Paramecium, C. W. REES, 184
NICE, L. B., Oklahoma Academy of Science, 461
NICHOLS, E. L., Emission Bands of Erbium Oxide, 53; Luminiscence, 157
NICHOLS, G. E., Deam's Trees of Indiana, 20
NOICE, HAROLD, Copper Eskimos, 611
Norman Bridge Laboratory, Dedication, N. BRIDGE, R. A. MILLIKAN, G. E. HALE, H. A. LORENTZ, 327
NOYES, H. A., Cultivation and Soil Moisture, 610

Observation vs. Experimentation, J. STEBBINS, 29
OLMSTED, J. M. D., Ciliary Action, 625
Origin of Species, D. S. JORDAN, 642
O'ROKE, E. C., Crayfish Trap, 677
OSBORN, H. F., Robert Hanham Collyer, 72; Lost Foxhall Jaw, 128; William Bateson on Darwinism, 194; Hesperopithecus, 463

PALMER, F., Jr., Rotertia, 317
Paramecium, C. W. REES, 184
PARSONS, C. L., Amer. Chem. Soc., 23, 77, 132, 185, 212, 307, 343
Pasteur Centenary, A. BONAZZI, 50
PEARL, R., Stefansson's The Friendly Arctic, 320
PEARSON, R. A., Agricultural Research, 229
PELLETT, F. C., *Nectarina* in Texas, 644
PENLAND, C. W. T., Angiosperms, 517
Pension and Insurance Plan at Princeton University, 694
PETERSON, P. P., Soil Deposition, 102
PHALEN, W. C., Potash Salts, 479
Philippines, Public Health-Work, 15
PHILLIPS, J. C., Animal Experimentation, 48
Philosophical Soc., Amer., A. W. GOODSPEED, 649
Phlox, Full Coloration in, J. P. KELLY, 245
Photoperiodism, W. W. GARNER, H. A. ALLARD, 582
Physical Soc., Amer., 424
Physics, Advances in, C. BARUS, 19; British Institute of, 612
Physiology, W. FLETCHER, 551
Pickering Memorial, S. A. MITCHELL, 467
Pigments, Yellow, G. B. RIGG, 101
Plants, Devonian, G. R. WIELAND, 427
Poland, University Professors in, V. KELLOGG, 430, 704
Porto Rico, Flora of, 470
Potash Salts, W. C. PHALEN, 479
Prehistoric Studies in France, 122
Proturans, Nearctic, H. E. EWING, 706
Psychological Corporation, 169, 448

Psychology as a Career, C. E. SEASHORE, 381
Publication Economy, 181
Public Health and Medical Practice, W. G. THOMPSON, 18

Rabbit, Vienna White, W. E. CASTLE, 269, 429
Radio Service of Univ. of Wisconsin, 613
Ramsay Memorial, 236
RAND, H. W., Sec. F—Zool. Sciences, 572
Ray, Society, W. T. CALMAN, 156; Giant, E. W. GUDGER, 338
RECORD, S. J., Woods, 266
REES, C. W., Paramecium, 184
Relativity and Star Diameters, R. A. FESSENDEN, 180
Research, Funds of U. S., J. A. UDDEN, 51; in Agriculture, A. F. WOODS, 64; R. A. PEARSON, 229; 202; British Industrial Fatigue Board, 368; National Council, Medical Fellowships of, 369; Earning Power of, 376; On Ice Age, 391; Factor of Safety in, A. F. SHULL, 497; Fellowships in Mining, 533; Grants for, 409; By National Academy of Sciences, 563; Institutes, F. C. WOOD, 657; Maintenance of Scientific, C. S. SHERRINGTON, 629
RESSLER, O. L., Tipburn, 53
Rhodesian Skull, 129
RICHARDS, H., Metric Campaign, 515
RICHARDSON, R. G. D., Amer. Math. Soc., 354, 600
RIGG, G. B., Yellow Pigments, 101
RITTER, W. E., Evolution, 398
Rockefeller Foundation Gift, 234, 588
ROEVER, W. H., Graphic Analytic Method, 401; Grants for Research, 519
Rogers, William Barton, Science Hall, 121
ROSEN, H. R., Fuller's Scale, 76
Roteria, F. PALMER, JR., 317
Royal, Photo. Soc., 257; Acad. of Belgium, 670
Russian Bureau of Applied Botany, D. N. BORODIN, 129

Sands, Molding, 367
SCHUCHERT, C., Clarke on James Hall of Albany, 243
Science, in Agriculture, E. W. ALLEN, 6; in U. S., J. ERLANGER, 135; in Philippines, J. C. Witt, 197; California Academy of, G. D. HANNA, 305; Oklahoma Academy of, L. B. NICE, 461; Illinois State, 589; or Athletics, E. G. MAHIN, 523; Writing Popular, N. E. DORSEY, 374, 593; W. E. ALLEN, 454; E. E. SLOSSON, 241, 480; J. O'H. COSGRAVE, 593; W. KAEMPFFERT, P. B. MCDONALD, 621; Social and Economic, F. L. HOFFMAN, 521
Scientific, Notes and News, 15, 45, 69, 96, 124, 150, 173, 203, 237, 259, 288, 312, 344, 370, 394, 424, 451, 473, 510, 534, 563, 590, 614, 637, 672, 697; Exhibit of Amer. Med. Ass., 613; Instruments, 200; British Journals of, 201; Papers, Publication of, W. J. CROZIER, 388; 562; Periodicals, 67, 171; Side, 430; Societies, English, 258; Work in Russia, A. HRDLIČKA, 618
Scientists, Training, J. H. HILDEBRAND, 355; Am. Com. to Aid Russian, V. KELLOGG, 667
Scott, John, Medal Fund, 344
Seals, Fur, G. D. HANNA, 505
SEASHORE, C. E., Psychology as a Career, 381
Sera, Standards, 44; Immune Hemolytic, R. R. HYDE, 541
Sheffield Scientific School, Dean of, 671
Sheldon Memorial, 235
SHERRINGTON, C., Maintenance of Scientific Research, 629
SHULL, A. F., Amer. Soc. Naturalists, 105; Federation of Biological Societies, 245; Factor of Safety in Research, 497
SHULL, G. H., Mendel Centenary, 392
SIEGLER, E. A., New Sclerotina on Mulberry, 350
Sky Brightness, C. L. MEISINGER, 20
SLAUGHT, H. E., Mathematical Projects, 146
SLOSSON, E. E., Writing Popular Science, 241, 480; National Academy of Sciences, 465
SMITH, A. W., 121
SMITH, G. O., Geologic Diffusion, 596
SMITH, HUGH M., Spencer F. Baird Memorial, 634
Sodium Hydrate and Grain Hulls, J. B. LINDSEY, 131
Soil, Deposition in Palouse Area of Wash. and Idaho, P. P. PETERSON, 102; J. A. LARSEN, 457; Hydrogen-Ion Concentration of, P. S. BURGESS, 647; Colloids, N. E. GORDON, 676
Solar Energy, F. B. DANIELS, 618
Species, Pure and Impure, B. M. DAVIS, 107
Spiders, Poisonous, F. R. WELSH, 49
Standardization of Industries, 285, 310
STEBBINS, J., Observation vs. Experimentation, 29; Amer. Astronomical Soc., 298; Grants for Research, 256, 409
Stereotropism, L. LOEB, 22
STRATTON, S. W., Int. Auxiliary Language, 166; Charles W. Waidner, 389
Streams, Deflection of, by Earth Rotation, W. M. DAVIS, 478; of Long Island, O. E. JENNINGS, 291; Flow Experiment, C. L. MEISINGER, 622
Sudhoff's Paracelsus, F. H. GARRISON, 155
Suter, Heinrich, F. CAJORI, 447

Temperatures in U. S., C. L. MEISINGER, 292
Thermel, W. P. WHITE, 617
Thompson, Caroline Burling, T. E. S., 40
THOMPSON, W. G., Public Health, 18
Tilth, Value of, J. ALEXANDER, 156
Tipburn, F. A. FENTON and O. L. RESSLER, 53; J. R. EYER, 180
TITCHENER, E. B., Wilhelm Wundt, 129
Topography, Acoustic, C. BARUS, 321
TRELEASE, S. F., Water Cultures, 483
Tropical Research Station, H. F. O., 254
TRUE, R. H., Calcium for Higher Green Plants, 1
Tungsten, Sealing into Pyrex, L. T. JONES, 352; Decomposition of, G. L. WENDT, 567
Tuning Fork, C. K. WEAD, 73
TURKEY, H. B., Fruit Trees, 241
TURNER, H. G., Laboratory Determinations, 53

UDDEN, J. A., Research Funds of U. S., 51
Universities, Doctorates Conferred by, C. HULL and C. J. WEST, 271
University, and Educational Notes, 18, 48, 71, 99, 127, 154, 177, 206, 240, 262, 291, 316, 347, 372, 397, 427, 454, 477, 513, 537, 565, 593, 617, 642, 675, 701; Kentucky, Sigma Xi at, 671; McGill, Sigma Xi at, 449; Michigan, 448; Stanford, 423; Wisconsin, 312; Radio Service of, 613; Colloid Chemistry at, 393; Yale, 13, 696; Forestry Building, 287; School of Forestry, 203, and Dr. Chittenden, 393; Dr. White's Gift to Morgantown and Univ. of Va., 93.

Vienna, C.-E. A. WINSLOW, 363
Vivisection, Cardinal Dougherty on, 150

Waidner, Charles W., S. W. STRATTON, 389
Wundt, Wilhelm, E. B. TITCHENER, 129
Water, Cultures, S. F. TRELEASE and B. E. LIVINGSTON, 483; Immersion Objectives, A. MANN, 539
Washington Univ. School of Medicine, Student Grades at, M. F. WEYMANN, 690
WATSON, J. R., *Lactrodectus Mactans*, 539
WEAD, C. K., Tuning Fork, 73
Weeds, S. F. BLAKE, 455
WELSH, F. R., Poisonous Spiders, 49
WENDT, G. L., Decomposition of Tungsten, 567
WEYMANN, M. F., Student Grades at Washington Univ. School of Medicine, 690
WEYMOUTH, F. W., Decerebration in Birds, 538
WHERRY, E. T., Soil Acidity and Plant Distribution, 568
WHITE, W. P., Thermel, 617
WHITTLE, C. L., Banding of Birds, 233
WIELAND, G. R., Devonian Plants, 427
WIGGLESWORTH, E., Animal Experimentation, 48
WILLIAMS, S. R., Section B—Physics, 520
WILLIAMSON, E. B., Keys in Systematic Work, 703
WINSLOW, C.-E. A., Vienna, 363
WITT, J. C., Science in Philippines, 197
WOOD, F. C., Research Institutes and Their Value, 657
Woodborer, Long-lived, A. B. CHAMPLAIN, 49
WOODS, A. F., Research in Agriculture, 6
Woods, S. J. RECORD, 266
WYCKOFF, R. W. G., Transmuting Lithium, 130
WYLIE, R. W., Sec. G—Bot. Sciences, 573

X-Rays, Production of Non-Disjunction by, J. W. MAVOR, 295

Y-chromosome Type, W. E. CASTLE, 703

Zoologists, Amer. Soc., W. C. ALLEE, 159; L. J. COLE, 326; All- Russian Congress, 392